

Message

From: EPAResearchCompass [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C1E8F11508674C3C954553A1129D33E5-EPARESEARCH]
Sent: 9/18/2018 4:55:00 PM
To: ORD-ALL Feds and NonFeds and RSLs [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2c735272eef941588aefd9a05ed28823-ORD-ALL Feds and NonFeds and RSLs]
CC: Lincoln, Larry [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8248d03a1441414db7754db201ebec45-Lincoln, Larry]; Barnett, Felicia [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5773b45cae5142fe950861dd6146f1e9-Barnett, Felicia]; Carter, Bobbi [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dcafe85fc418ebd1651be2e8ab82d-Carter, Bobbi]; Gettle, Jeaneanne [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8e72aa7e1894faea44006fd9f22b637-Gettle, Jeaneanne]; Taylor, Dawn [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b984d00ec06544e498ee5d986f97047c-Taylor, Dawn]; Klinger, Adam [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=346d5466632f4967adc7169c8d2ce4fd-Klinger, Adam]; Liljegren, Jennifer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c7098a838cd34f75b8878571fe95d939-JLiljegr]; Pollard, Solomon [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=16cdf700f8024145847a2770b84abae3-Pollard, Solomon]; Clarage, Meredith [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ee9504437be545489f518710a5e80e68-Clarage, Meredith]; Fan, Shirley [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cdeba1df9599435cb7401d0a65be7cda-Sfan02]; Peffers, Mel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1b6116fbb41448b38b3caefc882165fe-Peffers, Melissa]
Subject: Weekly Compass: September 18, 2018



Weekly Update: 9/18/2018

Welcome to the Weekly Compass, your gateway to information about recent and upcoming ORD activities. If you have ideas for the Weekly Compass, please send them to the editors. To see past issues, visit the Weekly Compass archive on ORD@work.

Weekly Note from Jennifer

ORDers- As we continue to deal with the aftermath of hurricane Florence, please continue to stay tuned to the news and heed any warnings. I've heard a few stories about damage and I know that our Chapel Hill facility has sustained water damage, but I hope that everyone has been spared the worst of the impacts.

September is national preparedness month, so as you continue to keep your emergency food supplies stocked this month, please think of those less fortunate as well as those impacted by Florence and pick up some extra non-perishable items to donate to your local food bank as part of our Feds Feed Families campaign. If everyone contributes two cans each week for the remainder of the campaign we'll go some distance toward meeting our goal. For the remainder of the campaign, each Tuesday will be "Two Can Tuesday". Please consider that as part of your donation strategy!

As you have likely heard, last Friday was Richard Yamada's last day with the Agency. Over the past 15 months he grew to appreciate the work done by ORD. We wish him well in his next adventure.

Like most weeks, this one is a busy one. Tomorrow OCFO leadership will join us to brief OMB about our budget.

Yesterday, I announced the recipients of the 2017 ORD Honor Awards. These awards highlight the wonderful work you all do every day to protect human health and the environment. Congratulations to all those who are receiving awards!

Finally, please join me in thanking all of ORD's trainees and student services contractors during National Postdoctoral Appreciation Week. ORD currently has approximately 275 trainees, including 150 postdocs, through a variety of mechanisms. In addition, ORD has approximately 170 student services contractors through the National Student Services Contract. You make an invaluable contribution to ORD and environmental protection and we appreciate all of your hard work on behalf of the Agency!- *Jennifer*

Quick Updates

- Read the latest EPA press release about Hurricane Florence and check out the EPA response page for updates.
- EPA's Advancing Actionable Alternatives to Vertebrate Animal Testing for Chemical Safety Assessment RFA (short title: Alternative to Animal Testing), remains open for applications through **September 25**.
- EPA's Practical Methods to Analyze and Treat Emerging Contaminants (PFAS) in Solid Waste, Landfills, Wastewater/Leachates, Soils, and Groundwater to Protect Human Health and the Environment RFA (short title: PFAS in Landfills and Groundwater) is open for applications through October 2. *Editor's note: this is a corrected link, previous editions incorrectly linked to a Sharepoint site. Please use this link for more info.*
- No Fear Act Training, COOP Training, FOIA Training, and Records Management Training are now available, training must be done by **September 30**
- Don't forget to check out the open opportunities on Talent Hub!
- You can read the This Week @ EPA newsletter here.
- Upcoming webinars:
 - TSP Contributions and Funds: (registration password: TSPweb) Wednesday, September 19, 1-2 ET

- EPA Tools and Resources Webinar: Sustainable Materials Management Prioritization Tool and the Georgia Pilot: Wednesday, September 19, 3-4 ET
- TSP Post-Service Withdrawals:(registration password: TSPweb) Thursday, September 20, 10-11 ET
- SERDP & ESTCP Webinar: Plant Diversity and Biological Nitrogen Fixation in Longleaf Pine Ecosystems at Military Installations: Thursday, September 20, 12-1:30 ET
- Direct estimates of health improvements from reduced emissions at coal-fired power plants: Thursday, September 20, 3 ET
- RAF Ecological Risk Assessors Colloquium: Tuesday, September 25, 9-5 ET
- Small Water Systems Research Webinar: Droughts and Flooding: Tuesday, September 25, 2-3:30 ET
- Removal of Organic Contaminants from Polyethylene Drinking Water Pipes by Flushing: Wednesday, September 26, 1-2 ET
- Computational Toxicology Communities of Practice: CompTox Chemistry Dashboard Version 3: Thursday, September 27, 11-12 ET

Photos of Week: Out on the Lake Explorer II

In the Lab:

Enter Your FY18 Fourth Quarter Data into TechTracker by September 30

The fourth quarter for Fiscal Year 2018 (FY18) is ending, and it will soon be time to develop the fourth quarterly report of TechTracker data. To ensure that all FY18 fourth quarter data is in the system prior to developing the report, we are asking that everyone create any remaining entries for technical support performed during the fourth quarter (July 1 through September 30, 2018) or add hours to existing entries as necessary for additional time spent on those tasks in that timeframe. Please have all applicable technical support hours for fourth quarter work entered into TechTracker by September 30. For any ongoing work that will extend into the next fiscal year, please close out the entry for that work for FY18 by entering 9/30/2018 as the end date. You will create a new entry for that ongoing work for FY19. If you have any questions, please contact your Program Support Coordinator.

Ecological Evidence Exchange (EcoEvidEx) Trial Period

Last week, EcoEvidEx was released for an initial trial period. EcoEvidEx is an initiative created by NCEA scientists working in collaboration with researchers from Australia and the United Kingdom and the journal *Freshwater Science*, to encourage and improve the translation of research results into evidence that can help inform environmental management decisions. During the trial period, users will be testing and providing feedback on the EcoEvidEx data entry system.

Public Health Ontario

Last week, NCEA's Jason Sacks and Evan Coffman along with a colleague in OAR/OAQPS had a discussion with individuals at Public Health Ontario about their ongoing effort to conduct multipollutant burden/benefits modeling. Their efforts focused on building off the presentation Jason delivered at the ISES/ISEE annual meeting on modifications to U.S. EPA's Environmental

Benefits Mapping and Analysis Program – Community Edition (BenMAP – CE) to incorporate multipollutant functionality into the tool.

NHEERL Scientist to Assist European Countries To Address Lyme Disease

NHEERL's Elizabeth Hilborn will assist the French Ministry of Health to conduct a review of Lyme disease surveillance and clinical protocols among selected G7 and European Union countries. Dr. Hilborn is participating in the 2018 Embassy Science Fellowship Program and will be based in Paris, France, from October 1-December 10, 2018.

Wildland Fire Research and Resources Reaching Broad Audiences

An article in *Nature*, published on September 7, highlights the lack of studies that distinguish between the sources of pollutants that people breathe during wildland fire events, and cites a recent EPA paper by NHEERL's Yong Ho Kim and others, which is part of research beginning to address this gap. The paper found that burning pine needles damaged mice DNA more than burning plastic, and identified burning eucalyptus as the most toxic to immune cells in mice lungs. This is a good example of toxicology research informing a current public health crisis. On September 6, the northern California Regional Asthma Management and Prevention e-digest shared a list of resources developed by EPA and partners to help the public, health care providers, local officials, and others, prepare for and respond to wildland fire events. This resource list came from a webinar provided by NHEERL's Wayne Cascio to the American Lung Association, and demonstrates how EPA information and tools are being leveraged by others to expand their reach, and provide current, solutions-oriented information to a wide range of affected audiences.

Interstate Technology and Regulatory Council Board Meeting

This week, Lisa Matthews will attend the Interstate Technology and Regulatory Council (ITRC) Board meeting at Virginia's Department of Environmental Quality in Richmond, VA. ITRC is a subgroup of the Environmental Research Institute of the States (ERIS), working to advance the use of innovative environmental technologies and approaches. Agenda topics include lessons learned from 2018 ITRC teams, 2019 teams & products, strategic planning, ERIS by-laws discussion, and training for Board members.

Regional Science Liaison Meeting

The Regional Science Liaisons (RSLs) will be on EPA's Research Triangle Park campus for meetings, a poster session, demonstrations of online tools, and lab tours during the week of September 24. On Monday September 24 from 2-5 PM, all interested EPA staff are invited to the meeting kick-off in the RTP auditorium, followed by the RSL and ORD staff poster session in the B building atrium. During the week, the RSLs will also have a business meeting with OSP, participate in demonstrations of ORD's online tools/resources, tour select ORD RTP laboratories and meet to discuss Regional cross-cutting issues with ORD.

PFAS Support in West Virginia

On September 13, Regina Poeske (Region 3 RSL), Tim Buckley, Andy Lindstrom, Mark Strynar (NERL), Jeff Ryan (NRMRL) and staff from Region 3 met with representatives from West Virginia and the Chemours Chemical Company to discuss air samples collected from a Chemours facility in August. ORD is analyzing the samples for PFAS compounds.

Developing Better Floodplain Maps

Science of the Total Environment recently published "Development of a spatially complete floodplain map of the conterminous United States using random forest" by NERL's Sean

Woznicki, Jeremy Baynes, Stephanie Panlasigui (former ORISE), Megan Mehaffey, and Anne Neale. The article describes a study which used geospatial data to classify and map floodplains in the contiguous United States. The methods developed here can be adapted to regions lacking floodplain maps.

Estimating the Contribution of Monoterpenes and Sesquiterpenes to PM_{2.5} in Southeastern United States

On August 31, *Atmospheric Chemistry and Physics* published "Experimental and model estimates of the contributions from biogenic monoterpenes and sesquiterpenes to secondary organic aerosol in the southeastern United States." The article is co-authored by NERL's Havala Pye and Benjamin Murphy. The article describes a study in which novel experiments and field data were used to update CMAQ chemical transport model calculations to better estimate the contributions of monoterpenes and sesquiterpenes to fine particulate matter (PM_{2.5}) concentrations in the southeastern United States. Using the updated model, the study estimated that these sources accounted for 20% of the World Health Organization PM_{2.5} guideline, indicating a significant contributor of environmental risk to the 77 million inhabitants in the region.

A Bold Proposal to Help Improve Air Quality Forecasting

On September 4, *Environmental Science and Technology* published "A Call for an Aloft Air Quality Monitoring Network: Need, Feasibility, and Potential Value" by NERL co-authors Rohit Mathur, Christian Hogrefe, James Szykman and Gayle Hagler. The article demonstrates that using an aloft air monitoring network could dramatically improve air quality forecasts and health advisories. The authors suggest that this ambitious idea could be cost-effectively achieved by leveraging advances in sensor technology and the proliferation of tall telecommunications towers.

Flint Technical Meeting

Last week, NRMRL representatives participated in a Flint Technical Meeting at the request of Region 5. The meeting reviewed the results from a preliminary study that the City of Flint conducted prior to their full corrosion control study. The primary purpose of the preliminary study was to determine if blending city and county water would be required in their future full corrosion control study (to be conducted with the EPA pipe rigs). The EPA team, which included Tom Speth, Darren Lytle, and Kirk Scheckel, reviewed the report and were satisfied with results of the study; therefore, it was determined that the full corrosion control study would not need to blend the two waters. Additional participants at the meeting included Region 5, OW, and OECA.

Update on Milorganite Plant Inspection, Milwaukee, WI

Earlier this month, NRMRL's Laura Boczek participated in a follow-up meeting with representatives from Region 5, Wisconsin Department of Natural Resources (WDNR), and Milwaukee Metropolitan Sewer District (MMSD). MMSD produces Milorganite, a heat-dried pelletized biosolid product sold as a natural fertilizer. MMSD must maintain specific temperature parameters during the drying process to kill pathogens, but the plant has failed to meet these temperature requirements. Wisconsin state officials asked Region 5 to assist with the plant inspection, and the Region asked Laura to provide technical assistance regarding locations within the plant to measure temperatures and how to correct violations. At the September meeting, MMSD provided a detailed overview of their process. Participants discussed various alternatives to meet the temperature parameters and agreed on a proposal to demonstrate compliance. MMSD will submit to WDNR a draft study procedure to validate the proposed alternative; WDNR will share with EPA for review and comment. If the study verifies the proposed alternative as a solution, WDNR will draft and issue the permit to MMSD.

EPANET Water Distribution System Modeling Training, Cincinnati, OH

This week, NRMRL's Michael Tryby will be assisting the National Center for Infrastructure Modeling and Management (NCIMM) (an EPA grantee) in administering training on, "Water Distribution Systems Modeling Using EPANET." The two-day training course is intended for engineers, planners, consultants, and municipal water system professionals, and teaches participants how to analyze and design municipal water distribution systems using the free software EPANET. NRMRL, NHSRC, OW and regional staff will also participate.

Water Quality and Treatment Costs

NRMRL's James Price, Matt Heberling, and Chris Nietch recently published a paper, "Economic Support for Decisions on Source Water Protection," in the *Journal of the American Water Works Association*. The paper examines the relationship between water quality and drinking water treatment costs.

Pipe Rigs for Corrosion Control Studies in Flint, MI

NRMRL's Dan Williams, Christopher Parrett, Mike Schock, Christy Muhlen, Peg Donnelly, and Darren Lytle published a paper, "Design and Testing of US EPA's Flint Pipe Rig for Corrosion Control Evaluation," in the *Journal of the American Water Works Association*. This paper discusses the design, fabrication, and installation of four pipe loop rigs in Flint, MI, to help the city optimize corrosion control.

Visit to Region 7 and Meeting with Iowa

Last week, Former Deputy Assistant Administrator Richard Yamada, Maggie LaVay (OSP), Anne Rea (SSWR), Ken Forshay (NRMRL), Hale Thurston (NRMRL), Shawn Shifflett (post-doc ORISE fellow) and Tammy Newcomer-Johnson (NERL) visited Region 7 for a series of meetings, coordinated by Amy Shields (Region 7 RSL) and Rob Weber (OSP), to discuss ORD research efforts, regional and state science needs and opportunities for collaboration. The visit included meetings with the Region 7 Science and Technology Director and with staff from the Iowa Department of Natural Resources and Region 7 Senior staff in Des Moines, IA, as part of the Region 7 Science Council effort to meet with each state. There was also a field visit to a site in Iowa where water quality wetlands are used to reduce nitrate levels, as well as a meeting with the OW Deputy Assistant Administrator Anna Wildeman, OW Senior Advisor Owen McDonough, Region 7 management and staff and representatives from the Agribusiness Association of Iowa, Iowa Department of Natural Resources, Iowa Department of Agriculture and Land Stewardship, Iowa Farm Bureau and Iowa State University to discuss an FY19 RARE project on farmed wetlands.



In the Office:

Interim Records Management Policy

The Interim Records Management Policy for EPA was signed on August 22. The Interim Policy updates two primary aspects of EPA's Records Management Policy. Specifically, it highlights the obligation to document substantive decisions and commitments reached orally; and clarifies the ongoing need to maintain certain working files as records if needed to document the rationale underlying final Agency decisions. Updating the Records Management Policy on an interim basis allows the Agency to stay in step with current requirements from the National Archives and Records Administration (NARA) and EPA's National Records Management Program. This notice reaffirms that EPA's policy is, and has been, that all substantive decisions and commitments reached orally must be documented as records. In FY19, the National Records Management Program will be initiating a comprehensive review of EPA's Records Management Policy with opportunities for Agency-wide input. Proper records management supports key principles at EPA, including the Acting Administrator's recent statement on the importance of transparency.

Asian Americans and Pacific Islanders (AAPI) emPower Hour Series

The kickoff event is on Monday, Sept. 24 from 11:30 a.m.–12:30 p.m. ET in the William Jefferson Clinton Green Room in DC or contact Regional Special Emphasis Program Manager (SEPM) for info about connecting via VTC. The event will feature special remarks from Acting Administrator Wheeler and other senior leaders, followed by a facilitated discussion. This series is an employee-led, EPA-wide learning opportunity that will empower EPA employees to maximize and recognize AAPI contributions to EPA's mission. The AAPI emPower Hour series offers a way to implement best practices for integrating AAPI concerns into an effective public-sector organization. It will also foster a sense of AAPI community at EPA, strengthen their professional and leadership development, and elevate the needs and concerns of AAPIs in the United States.

Regional Special Emphasis Program Manager (SEPM)

Region 1: Mandy Liao, liao.mandy@epa.gov, 617-918-1036

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Region 3: Sharon Fang, fang.sharon@epa.gov, 215-814-3018

Region 4: Samir Gala, gala.samir@epa.gov, 404-562-9593

Region 5: Christina Tran, tran.christina@epa.gov, 312-886-0225

Region 6: Erin Tanimura, tanimura.erin@epa.gov, 214-665-8181

Region 7: Sandeep Mehta, mehta.sandeep@epa.gov, 913-551-7763

Region 8: James Hou, hou.james@epa.gov, 303-312-6210

Region 9: Angela Mendiola, mendiola.angela@epa.gov, 415-972-3284

Region 10: John Schaub, schaub.john@epa.gov, 206-553-6129

RTP: Catherine Penilla, penilla.catherine@epa.gov, 919-541-1508

Cincinnati: Eric Villegas & Amy Zhao villegas.eric@epa.gov; zhao.amy@epa.gov 513-569-7017; 513-487-2072

FedTalent to Become 'One Stop Shop' for Agency Training

Starting Oct. 1, FedTalent will be EPA's new integrated learning management system.

Accessible through the One EPA Workplace via the eLearning icon, FedTalent provides online access to mandatory, optional, and developmental training. Employees will have access to a robust catalog of online courses developed by EPA, OPM, SkillSoft, and other online training providers. The Department of Interior Business Center (IBC) will operate and maintain the FedTalent system. IBC is a designated Human Resources Federal Shared Service provider for

EPA and other federal agency customers. Find more information about FedTalent on the EPA University site.

Accolades:

OCSPP Honor Awards

Several ORD scientists recently received Office of Chemical Safety and Pollution Prevention (OCSPP) Honor Awards. Awards are given on a highly selective basis to employees who have performed at the highest level to support the mission of OCSPP.

- From NCCT both Drs. John Cowden and Maureen Gwinn received a Bronze Medal for Commendable Service for their work on the Strategic Plan to Promote the Development and Implementation of Alternative Test Methods Within the TSCA. The plan is available [here](#).
- Stan Durkee (OSP) received a Bronze Medal for Commendable Service from OCSPP for his work on the Mercury Inventory Rule. The final rule was a milestone for the two-year anniversary of the Lautenberg Act, and requires reporting from persons who manufacture or import mercury or mercury-added products or intentionally use mercury in a manufacturing process.
- Several IRIS scientists in NCEA are receiving the Collaboration Award for their participation on the Systematic Review Technical Team.
- NERL's Barbara Wetmore is being recognized as part of the Alternative Test Methods Strategic Plan Team. This team developed a Strategic Plan to promote the development and implementation of alternative test methods and strategies to reduce, refine or replace vertebrate animal testing.

In the News:

Wildland Fire Sensors Challenge Winners Announced

Alan Vette (Acting A-E NPD) announced the winners of the Wildland Fire Sensors Challenge last week at the Air Sensors International Conference in Oakland, CA. The winning prototypes, selected by EPA and federal partners, underwent rigorous laboratory testing by EPA and the U.S. Forest Service. The first place winners (\$35,000) are Jason Gu and Bryan Tomko of SenSevere/Sensit Technologies in Pittsburgh, PA, and R. Subramanian of Carnegie Mellon University. Second place (\$25,000) was awarded to Scott Waller and Andrew Smallridge of Thingy LLC in Bellevue, WA. Javier Fernandez of Kunak Technologies of Pamplona, Spain received an honorable mention. The competition is helping accelerate the development of monitoring technology to measure air pollutants from smoke during wildland fires that is portable, durable, reliable and wireless. A video and webpage were created to share the announcement of the awards.

Daily Beast Article Highlights Smoke Sense

NHEERL's Ana Rappold was interviewed for the article that ran recently, *The Looming Health Crisis in the Aftermath of the California Wildfires*. In the *Daily Beast* article, she discussed the citizen science project she is leading called Smoke Sense, an app that gauges public health effects on smoke days. People download the app and upload data about the surrounding area, including smoke quality, wildfires nearby, and breathing ability.

Underground Storage Tank Publication

Last week, the New England Interstate Water Pollution Control Commission published an article written by Steve Dymont (OSP) and Thomas Kady (OLEM) in their latest issue of L.U.S.T.Line, a biannual newsletter supported by EPA's Office of Underground Storage Tanks. The article discusses the use of high resolution site characterization as an innovative and cost-effective technique for characterizing contamination at leaking underground storage tank (LUST) sites.

In the Community:

EPA-RTP STEM Outreach Program

- Tomorrow, the program will participate in the Leadership Triangle's Transforming Leaders fall class as Career Coaches.
- On Thursday, NERL's Tim Watkins and Kelly Witter will attend the Research Triangle Cleantech Cluster (RTCC) annual meeting in Cary, N.C. Also on September 20th, the program will host two booths at the Scientific Research and Education Network (SciREN) Triangle and Educator Open House at the N.C. Museum of Natural Sciences in Raleigh.
- On Friday, the program will host 15 students from North Carolina Central University's TRiO- Student Support Services Program for a day of building and lab tours, hands-on activities, and speed mentoring. Also on Friday, EPA will participate in a Career Fair for seniors at Riverside High School in Durham.
- On Saturday, the program will host an EPA booth and present the EnviroAtlas activity "Connecting Ecosystems and Human Health" at the Durham Public Schools Hub Farm in Durham.

Photos of Week: Out on the Lake Explorer II

NHEERL staff went out on the Lake Explorer II while on a trip to Duluth recently. The Lake Explorer II is one of EPA's research vessels. Their trip lasted about three hours, and they got to watch staff launch the glider, collect samples, and more up-close!



From L to R: Dale Hoff, lab director in Duluth, is joined by NHEERL visitors, Bill Russo, Kay Holt and Bill Fisher.



*L to R: Kay and Dale in survival suits
Sam Miller Boat crew launching the SeaBat*

Dave Shoffner talking to the LEII Captain,



Bill Fisher (yellow hard hat), Kay Holt (blue hard hat) and Joel Hoffman (white hard hat) watching the crew launch the autonomous Slocum glider. The crew near the glider from left to right are Tom Hollenhorst, primary glider operator, and David Bolgrien, lead ecologist.



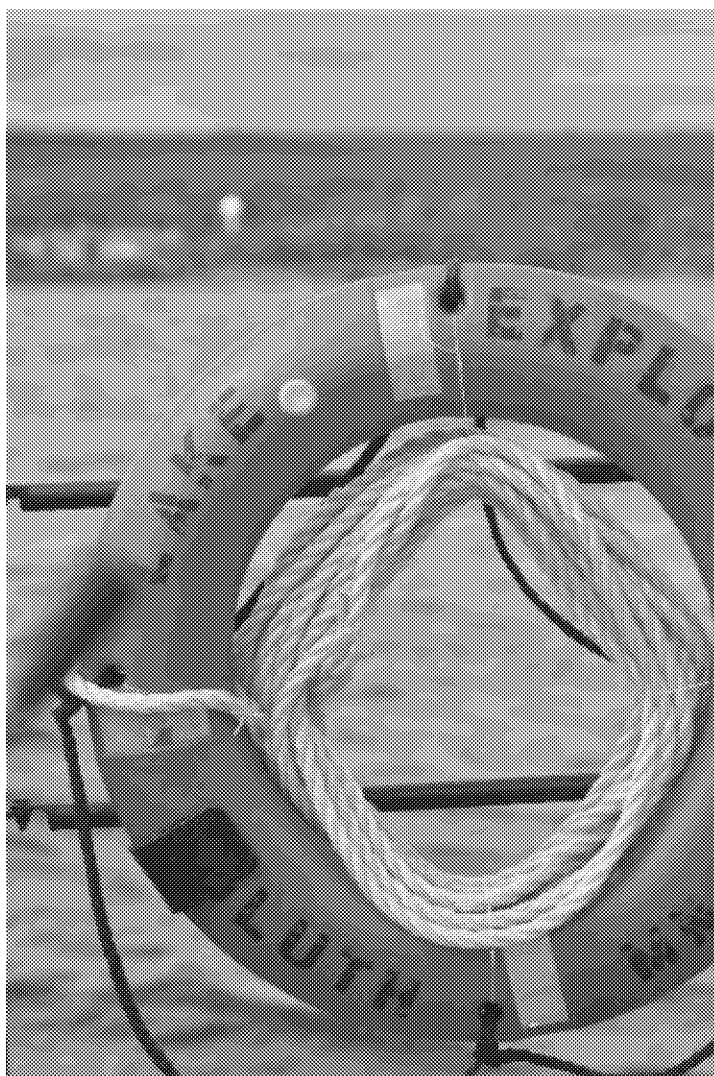
Matt Pawlowski, ORISE communicating by radio with the Captain when following the glider.



*Anne Cotter and Annie Opsahl, BTS
(Badger Technical Services) in the chemistry "lab"
- maneuvering the LEII*



Mary Rebecca Hancock, BTS First Mate



Mid-Continent Ecology Division campus in Duluth, MN on shore from the LEII on Lake Superior